

REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application in view of the foregoing amendments and the following remarks.

Claims 47-58 and 63-66 are pending in the application, with claims 47 and 63 being independent. Applicant amends claims 47, 48, 56, 63 and 64 to further clarify features of the claimed subject matter. The original specification and drawings support these claim amendments, for example page 14, Table 5. Therefore, claims 47-58 and 63-66 are presented and directed to subject matter of the original disclosure.

AMENDMENT TO THE PRIORITY

The text of the Priority has been amended as indicated above. Specifically, the section titled "Cross Reference to Related Applications" has been corrected in accordance with the Office's objection thereto (page 4 of Office Action). Applicant respectfully requests withdrawal of the Office's objection in view of the amendment to the Priority.

AMENDMENT TO THE SPECIFICATION

The text of the Specification has been amended as indicated above, including incorporating the title of the Application on page 1 as requested during the above-referenced interview. Therefore, Applicant amends the specification beginning on page 1, line 1 and ending on page 2, line 38. Accordingly, no new matter has been introduced. Applicant respectfully requests withdrawal of the Office's objection in view of the amendment to the Specification.

CLAIM REJECTIONS UNDER 35 U.S.C. §112, FIRST PARAGRAPH

Claims 47-58 and 63-66 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Without conceding the propriety of these rejections, claims 47, 48, 63, and 64 are amended as discussed during the above-referenced interview. Accordingly, Applicant requests that the §112 rejections be withdrawn.

CLAIM REJECTIONS UNDER 35 U.S.C. § 103

Claims 47-58 and 63-66 stand rejected under 35 U.S.C. § 103(a) as being obvious over EP 176630 (Uytterhoeven), in view of U.S. Patent No. 3,325,409 (Whitebread), in further view of *Handbook of Imaging Materials* (Diamond), in further view of U.S. Patent No. 3,078,231 (Metcalf), in further view of U.S. Patent No. 3,438,904 (Wagner), and in further view of U.S. Patent No. 5,116,705 (Materazzi). Applicant respectfully traverses the rejection.

Without conceding the propriety of the stated rejections, and only to advance the prosecution of this application, Applicant amends **independent claim 1**, as discussed during the above-referenced interview. Amended claim 1 now recites an electrostatic imaging process comprising (emphasis added):

- (A) forming a charged latent electrostatic image on a photo conductive surface; and
- (B) applying to the photoconductive surface toner particles from a liquid toner, thereby forming an image, wherein the liquid toner comprises:
 - (a) an insulating non-polar carrier liquid;
 - (b) at least one charge director; and

(c) toner particles dispersed in the carrier liquid and the at least one charge director, the particles comprising:

(i) a core material comprising a pigmented polymer suitable for use as a toner material in an electrostatic image development application, which is unchargeable by the at least one charge director or which is *weakly* chargeable by the at least one charge director;

(ii) *a coating of at least one ionomer component in an amount effective to impart enhanced chargeability* to the toner particles to an extent that the particles can be used to develop a latent electrostatic image in the electrostatic image development application;

(iii) wherein the coating of the at least one ionomer added to the toner particles in a first and a second liquid toner is sufficient to result in the same chargeability for toner particles within the first and second liquid toner; and

(iv) wherein the coating of the at least one ionomer increases the chargeability of the toner particles to less than or equal to 103 pmho/cm.

Applicant respectfully submits that no such process for electrostatic imaging is taught or suggested by Uytterhoeven, Whitebread, Diamond, Metcalfe, Wagner, and/or Materazzi.

References Fail to Teach or Suggest Claimed Electrostatic Imaging Process

Applicant submits that Uytterhoeven fails to teach or suggest the features of independent claim 1. The Office cites Uytterhoeven as disclosing “a liquid toner and method of making and using the toner. The liquid toner comprises a pigment coated with

an ionomer resin...The ionomer enhances the chargeability of the pigment particles by giving stability to the toner charge.” See Office Action, page 7. However, as discussed during the above-referenced interview, Uyterhoeven describes stabilizing particle charge in time. Uyterhoeven, Page 1-2. Further, on page 13, Uyterhoeven discusses means for determining that charge stability. For the convenience of the Office, an excerpt from Uyterhoeven is reproduced below:

Uyterhoeven, page 13:

The Q_T value is the charge value obtained by integrating the current I in amperes over the period (t) of 0.5 s ($I = Q/t$, so $I \times t = \text{charge } Q$) and is a measure of the charge Q in coulomb on the toner particles.

The charge stability of the toner particles was determined by measuring the Q_{T1} value immediately after the developer preparation and Q_{T2} 17 days thereafter upon redispersing optionally precipitated toner by stirring.

In contrast, Applicant’s amended claim 1 recites, “a coating of at least one ionomer component in an amount effective to impart **enhanced chargeability** to the toner particles to an extent that the particles can be used to develop a latent electrostatic image in the electrostatic image development application.” To assist the Office in appreciating the claimed subject matter, Applicant provides the following illustrative excerpts from Applicant’s Specification.

Page 6, lines 32-37

In a particular preferred embodiment of the invention, the toner particles are defined as ordinarily unchargeable, that is to say that they would be regarded as unchargeable by the skilled person, in absence of a knowledge of the present invention, and the ionomer is used in an amount effective to impart chargeability to the toner particles.

Page 14, lines 9-14

Results are shown in Table 5, from which it may be seen that use of the ionomer (i) markedly increases the chargeability of the toner particles (by an order of magnitude as seen in the high field conductivity data), with the consequence that the toner is satisfactory for use in an image....

Based on the evidence, Uytterhoeven alone or in combination with Whitebread, Diamond, Metcalfe, Wagner, and/or Materazzi do not teach or suggest “a coating of at least one ionomer component in an amount effective to impart enhanced chargeability to the toner particles to an extent that the particles can be used to develop a latent electrostatic image in the electrostatic image development application,” as recited in Applicant’s amended claim 1. Accordingly, Applicant submits that the evidence relied upon by the Office does not support the rejections made under §103.

Independent claim 63 is directed to a liquid toner for electrostatic imaging and is allowable for reasons similar to those discussed above with respect to claim 47. For example, the cited references fail to disclose “a coating of at least one ionomer component in an amount effective to impart enhanced chargeability to the toner particles to an extent that the particles can be used to develop a latent electrostatic image in the electrostatic image development application.” Accordingly, Applicant submits that the evidence relied upon by the Office does not support the rejections made under §103.

Dependent claims 48-58 and 64-66 depend directly or indirectly from one of independent claims 47 and 63, respectively, and are allowable by virtue of this dependency, as well as for additional features that they recite. Applicant also respectfully requests individual consideration of each dependent claim.

For example, dependent claim 57 recites “[t]he electrostatic imaging process of Claim 47 wherein the coating comprises a thickness greater than or equal to a monolayer of the at least one ionomer.” In the rejection of this claim the Office cites to Uyterhoeven, stating that “the artisan would have been expected to optimize the amount of ionomer coating given the guidance on EP p. 8, which suggests from 2 to 50 weight percent of the ionomer.” *See* Office Action, page 9. On page 9, Uyterhoeven describes “the percent by weight of anionic polymer with respect to the colouring matter (e.g. carbon black) of the liquid developer is preferably in the range of 2 to 50. In contrast, as discussed on page 12 of Applicant’s Specification, thickness as described in claim 57 refers to a calculation of thickness of the coating based on the percentage of A291A and the measured diameter of the particle. (Page 12, lines 24-26).

Therefore, Applicant respectfully submits that the cited references do not render the claimed subject matter obvious and that the claimed subject matter, therefore, patentably distinguishes over the cited references. For all of these reasons, Applicant respectfully requests the §1-3 rejection of these claims should be withdrawn.

CONCLUSION

Claims 47-58 and 63-66 are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of the subject application. If any issue remains unresolved that would prevent allowance of this case, the Office is requested to contact the undersigned attorney to resolve the issue.

Respectfully submitted,

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